

NOTICE OF  
CHANGE

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SENSITIVE

MIL-STD-188-185  
NOTICE 1  
1 December 1997

DEPARTMENT OF DEFENSE  
INTERFACE STANDARD

INTEROPERABILITY OF UHF MILSATCOM DAMA CONTROL SYSTEM

TO ALL HOLDERS OF MIL-STD-188-185

1. THE FOLLOWING PAGES OF MIL-STD-188-185 HAVE BEEN REVISED AND  
SUPERSEDE THE PAGES LISTED.

NEW PAGE	DATE	SUPERSEDED PAGE	DATE
21	1 Dec 97	21	29 May 96
22	29 May 96	22	Reprinted without change

2. RETAIN THIS NOTICE AND INSERT BEFORE TABLE OF CONTENTS.

3. Holders of MIL-STD-188-185 will verify that page changes and additions have been entered. This notice page will be retained as a check sheet. This issuance, together with appended pages, is a separate publication. Each notice is to be retained by stocking points until the standard is completely revised or canceled.

Custodians:

Army - AC  
Navy - EC  
Air Force -90

Preparing activity:

DISA (JIEO) - DC1  
(Project TCSS-1850)

Review activities:

Army - CR,PT  
Navy - MC,NC,OM,TD  
Air Force - 02,13,17,21,29,33,93  
CG  
DLA - DH  
NSA - NS  
DIA - DI

OSD - IR,SE  
NIMA - MP  
USSPACECOM - US  
USTRANSCOM - DC4  
DOT - OST  
JSC - JS

AMSC N/A

AREA TCSS

5.4.3.3.3.2 25-kHz waveform modulation. The modulation employed for the 25-kHz waveform shall comply with the modulation requirements defined in MIL-STD-188-183.

5.4.3.4 TDMA frame timing

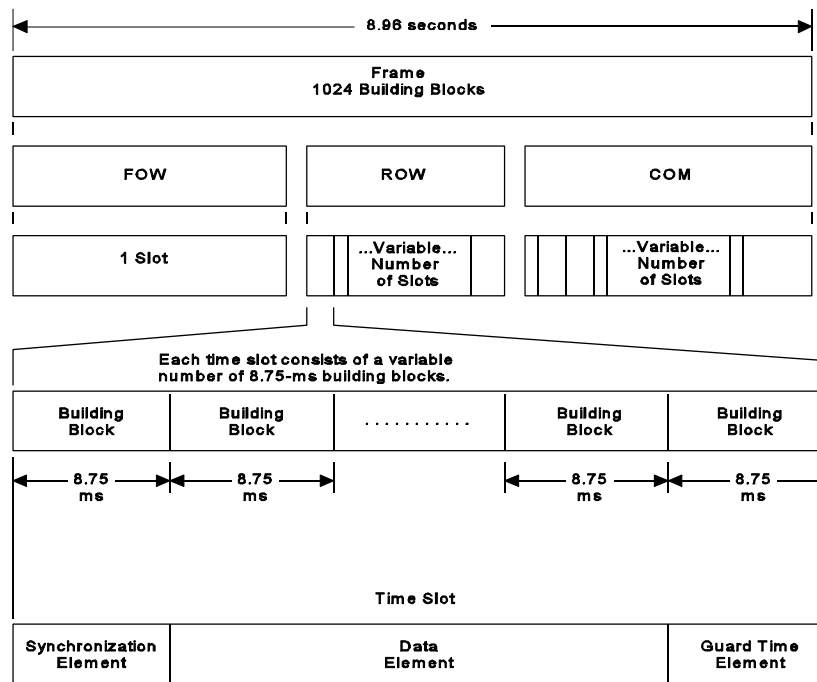
5.4.3.4.1 TDMA frame alignment. Time-division multiple access (TDMA) frames for all 5-kHz DAMA channels on all satellites in a given coverage area shall be aligned within 625 Fsec. TDMA frames for all 25-kHz DAMA channels on all satellites in a given coverage area shall be aligned within 104 Fsec. *Frame alignment* is defined as the synchronous arrival at the satellites of the start of the forward orderwire (FOW) or channel control orderwire (CCOW) preamble for all channels. All PCCs shall adjust their transmission times, as a function of their changing satellite range, to ensure that the preamble arrives at the satellite within the specified time limit. Frame alignment shall be maintained even when channel control is divided between control stations. There is no alignment requirement between 5-kHz and 25-kHz TDMA frames. See 6.3.1 for discussion of the need for frame alignment.

5.4.3.4.2 TDMA frame-length accuracy. The maximum offset from true time of the arrival at the satellite of the start of every 5-kHz FOW preamble during a 24-hour period shall not be greater than 1 millisecond (ms). The maximum variation offset from true time of arrival at the satellite of the start of every 25-kHz CCOW preamble during a 24-hour period shall not be greater than 100 microseconds (Fs). *True time* is defined as the perfectly timed arrival of the FOW/CCOW at the satellite and requires perfect ranging and perfect clock accuracy. See 6.3.2 for discussion of frame length.

5.5 5-kHz channel control. The control station shall be capable of providing primary and alternate control of multiple 5-kHz and 25-kHz UHF MILSATCOM channels. (The 25-kHz channel control capability is described in 5.6.) Terminals will transmit ROWs as specified in MIL-STD-188-182. The ACC shall be capable of assuming control from the PCC. The ACC, when operating as a network member, or performing functions common to the operation of a network member, such as ranging, shall also transmit ROWs as specified in MIL-STD-188-182. The ACC shall be capable of assuming control from the PCC. Each 5-kHz DAMA channel shall be controlled by a PCC that provides real-time control of the channel. The PCC shall respond with assignments of channel resources, using the FOW.

5.5.1 Waveform requirements. The PCC shall establish the 5-kHz TDMA waveform. The waveform shall be divided into fixed timing intervals, known as *frames*, as shown on Figure 2. Each frame is divided into 1024 increments known as *building blocks*. A single building block is 8.75 ms long. The building blocks in the frame are grouped in segments, time slots, and fields, which are described in the following subparagraphs.

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FIGURE 2. 5-kHz frame format.

a. A frame shall consist of three segments: The FOW segment, the ROW segment, and the communications (COM) segment, as shown on Figure 2. The FOW segment consists of one time slot and shall always be located at the start of each frame. The PCC shall maintain a fixed, 8.96-second time interval between transmitted FOWs, within the accuracy specified in 5.4.3.4.2. The ROW segment follows the FOW segment and consists of a variable number of ROW message time slots and a variable number of ROW ranging time slots. The COM segment follows the ROW segment and consists of a variable number of communications time slots.

b. A *time slot* is a time period assigned for the transmission of an orderwire or communications burst. Time slots consist of a variable number of building blocks. Each FOW shall indicate time-slot start times and time-slot durations for the next frame. Two types of time slots for orderwires exist: (1) the FOW, described in 5.5.1.1; and (2) the ROW, which has two versions, the range version ROW, described in 5.5.1.2.1, and the message version ROW, described in 5.5.1.2.2.

c. Each type of time slot has various fields used for synchronization and the conveyance of information to or from terminals. A time slot is used for a single burst that has one or more fields and includes guard time required to avoid adjacent

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